AP 203- the Next (and Future) Generation(s)

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ISO TC184/SC4/WG3 N897

Agenda

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- Introductions
- AP 203 History to Date
- AP 203- the current rendition
- AP 203- the need for change
- AP 203- the plan forward
- Open Discussion

AP 203 History to Date

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- AP 203 first appeared as a document in 4Q1990
- AP 203 started its CD Ballot 9/20/1991 which ended 1/24/1992
- AP 203 started its second CD Ballot in September 1992
- AP 203 DIS Ballot began in July of 1993
- AP 203 became an IS AP in December of 1994
- AP 203 Technical Corrigendum (TC) 1 was issued on 4/15/1996
  - replaced diskette which had a virus
- AP 203 TC 2 was issued 6/4/1998
  - added a subset of conformance class 1 (giving 203 12 conformance classes)
  - fixed editorial SEDS issues- 3,4,6,8,9,11,59-62,69,89,117,302

AP 203 The Current Rendition

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- The current "official" edition is 10303-203:1994/Cor.2:1998
- In the world of implementation, there are overrides:
  - advanced_face is allowed to have surface_curve, seam_curve, and intersection_curve
  - SUBTYPE_MANDATORY_SHAPE_REPRESENTATION does not apply when the representation is a DEFINITIONAL_ REPRESENTATION
  - GEOMETRIC_REPRESENTATION_ITEM_3D does not apply when the representation is a DEFINITIONAL_ REPRESENTATION

AP 203 The Need for Change

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- There are a number of issues against 203
  - 13 deferred from the DIS ballot
  - 64 SEDS
    - 21 are logged as closed, but must be reflected in any new edition
- There are many compiler and coding problems to be cleaned up
- The AIC Express has changed a great deal since 1994
- The 40 series parts have had Express corrected by TC
- There are new 40 and 100 series constructs

AP 203 The Plan Forward

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- It seems apparent that a TC3 is needed
  - Correct Express Errors being corrected in 40 series
  - Correct Express Errors in 203
  - Update Express that is now in AICs
  - Long Form and Short Form complete
    - need to do document editing
  - Addresses SEDS: 1,3*,4*,6*,8*,24,25,26,27,37,55,56,57,69*,89*,117*,244,245,246,316,317,318,329,330,331,332,354,355,356,358,359,360,361,362,363 and 389
- Given the 3 TCs, it seems a new edition is in order
  - Roll in the TCs
  - Re-cast the ARM in Express
  - Realign the conformance classes
  - Make it interoperable
  - It might be the first "modular" AP

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What is It?

One planned use of the Modularization Strategy

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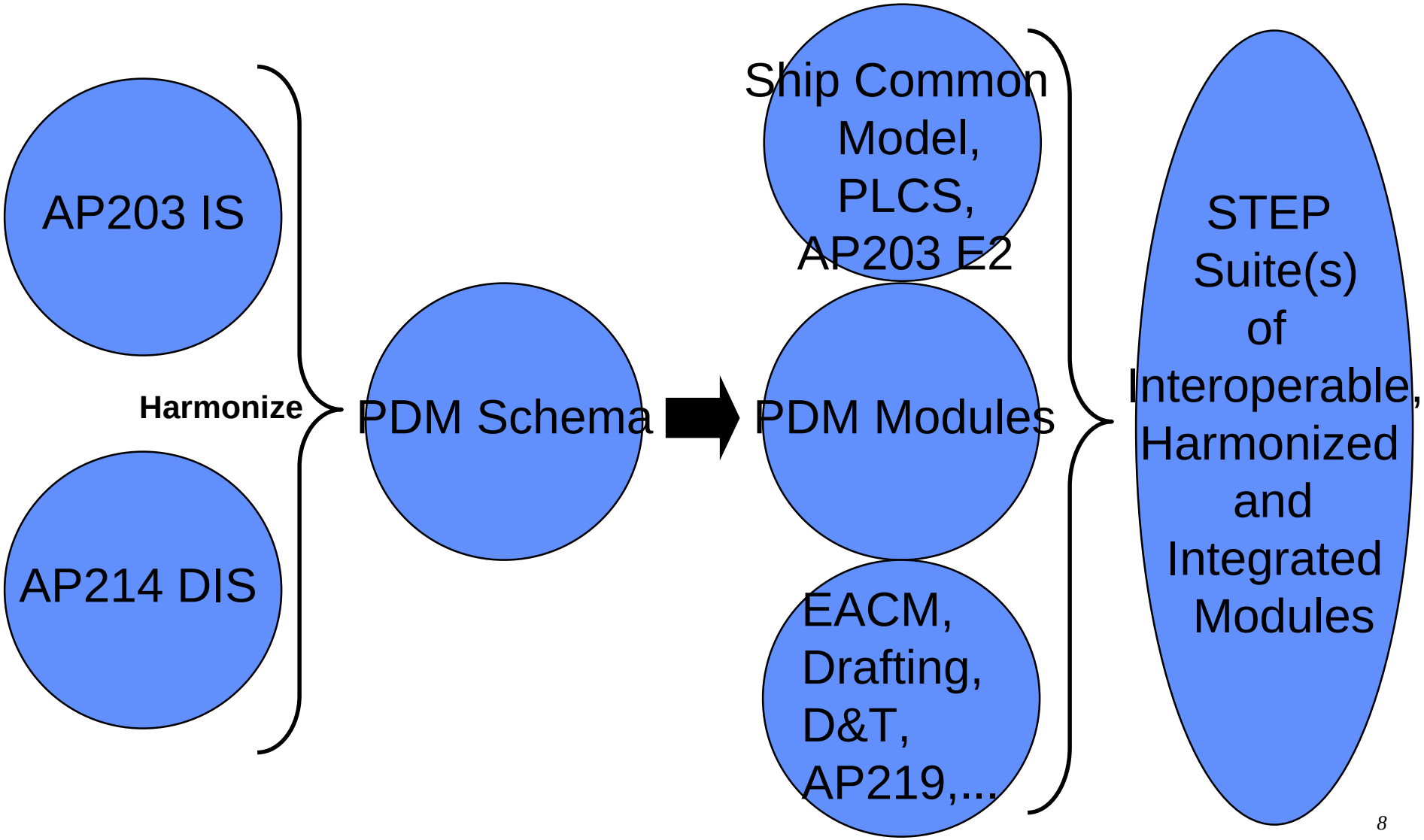

PDM Functional Areas

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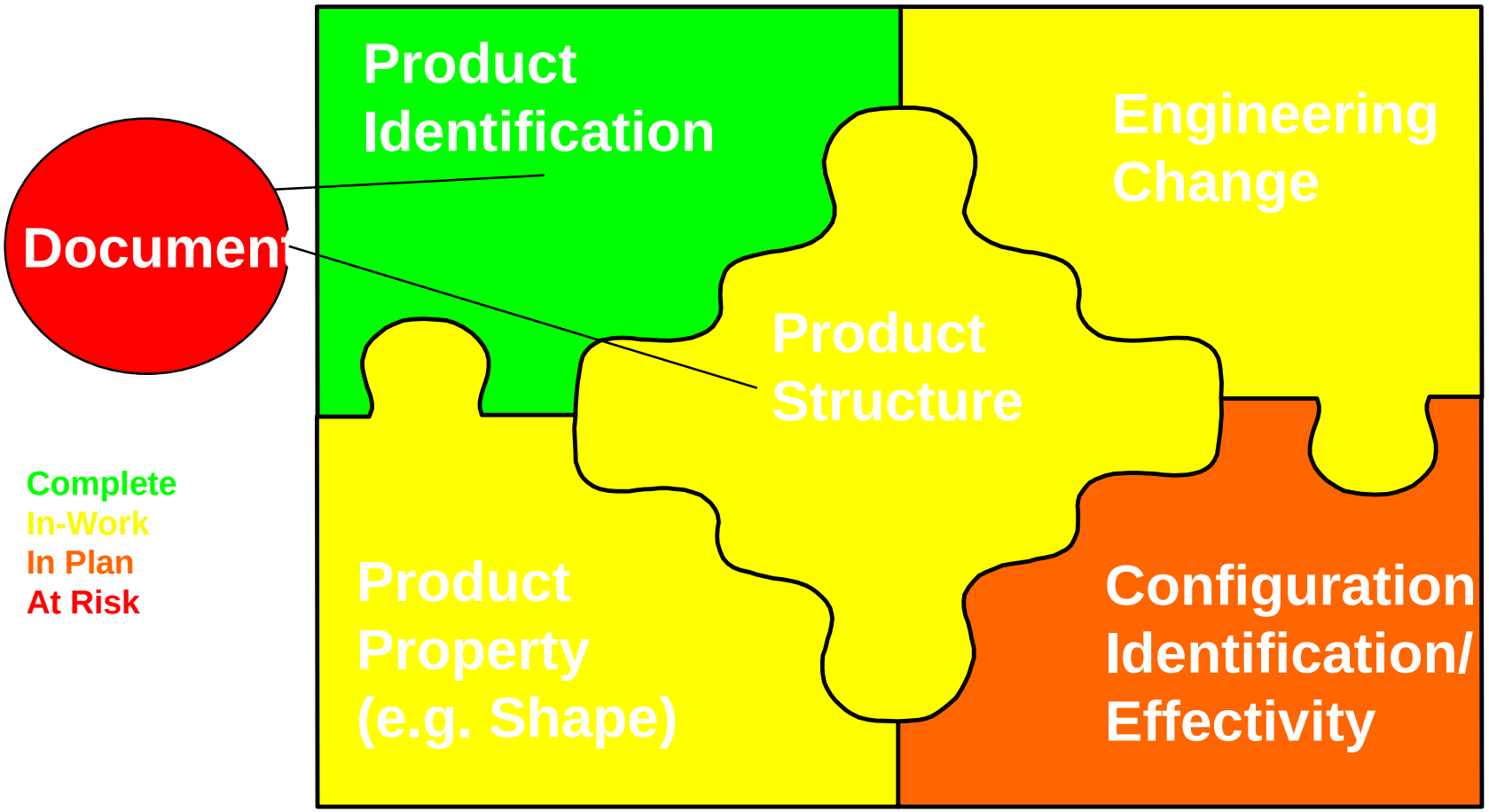
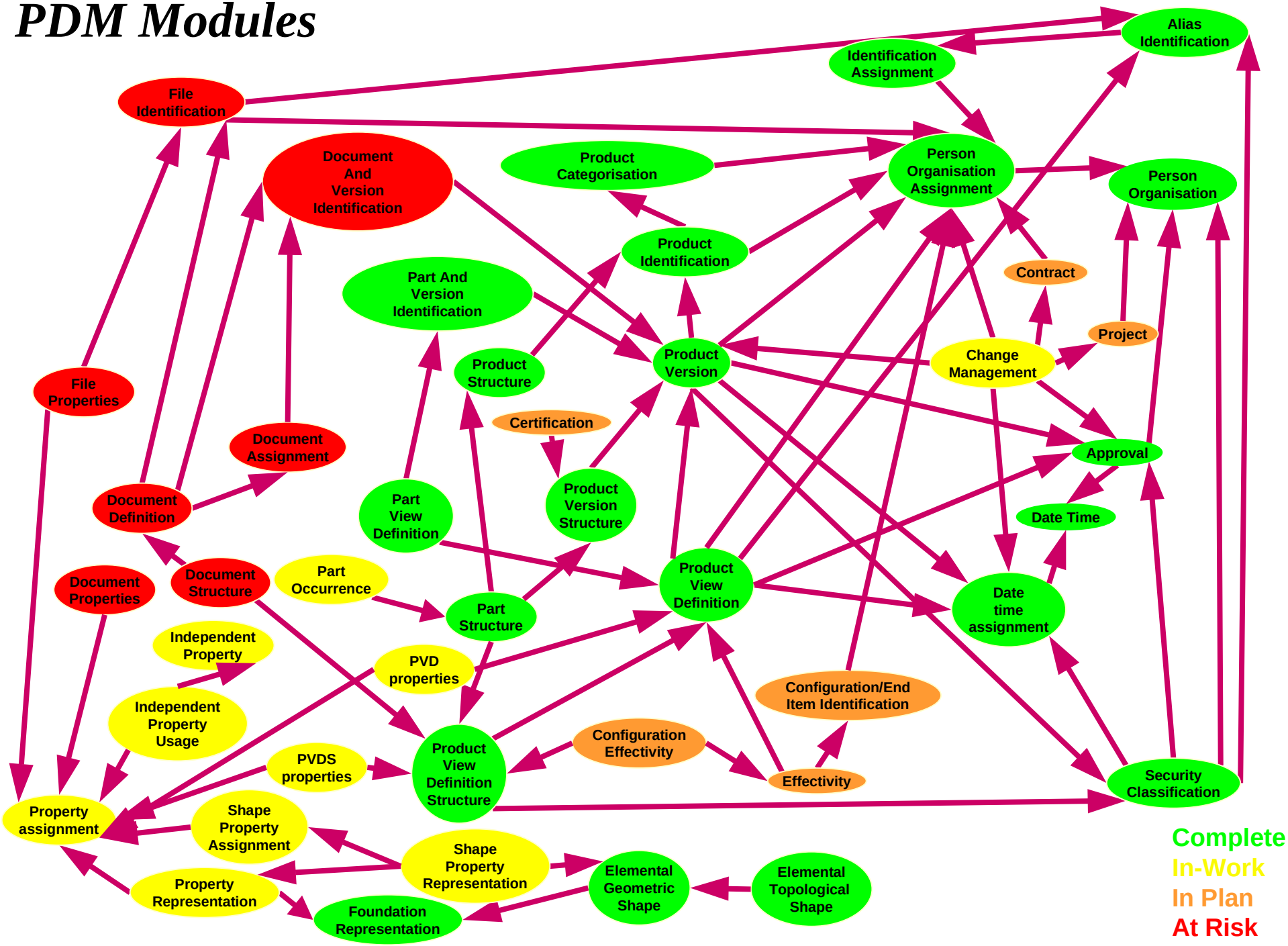


PDM Modules


Alias Identification
Identification Assignment
File Identification
Document And Version Identification
Product Categorisation
Person Organisation Assignment
Person Organisation
Product Identification
Part And Version Identification
Contract
Project
Product Structure
Product Version
Change Management
File Properties
Certification
Document Assignment
Approval
Document Definition
Part View Definition
Product Version Structure
Date Time
Document Properties
Document Structure
Part Occurrence
Product View Definition
Date time assignment
Part Structure
Independent Property
PVD properties
Configuration/End Item Identification
Independent Property Usage
Configuration Effectivity
Product View Definition Structure
PVDS properties
Effectivity
Security Classification
Property assignment
Shape Property Assignment
Shape Property Representation
Elemental Geometric Shape
Elemental Topological Shape
Property Representation
Foundation Representation
Complete
In-Work
In Plan
At Risk

Modular 203 Contents

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- part and version identification
- part view definition
  - with shape / properties
- part structure
  - with shape / properties
- part occurrence
  - with shape/ properties
- file/ document identification
- part properties
- person/*or*ganization
- date/time
- approval
- change management

Modular 203 Contents...

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- configuration identification
- configuration effectivity
- effectivity
- foundation representation
- elemental geometric shape
- elemental topological shape

- **Modules/AICS for:**
  - Advanced BREP
  - CSG
  - Manifold Surface
  - Topologically Bound Surface
  - Topologically Bound Wireframe
  - Geometrically Bound Surface
  - Geometrically Bound Surface

Other Enhancements

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- **Closing of all outstanding SEDS (hopefully)**
- **EXPRESS ARM**

- **Other scope changes as required**
  - **More document ability?**
  - **Software CM specializations?**
  - **Non-manifold shape?**
  - **Colour/Layer?**
  - **Annotation of 3D Model?**
  - **Tolerances?**
  - **Parametrics**

Proposed Schedule

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- **Kickoff- Lillehammer**
- **TC3- June 2000**
- **ED2 Working Draft- June 2000**
- **NWI/CD- Year End 2000**

Open Discussion